5

Notice of Allowability	Application No.	Applicant(s)	
	10/791,138	WEBB, JAMES	
	Examiner	Art Unit	
	Matthew O. Savage	1724	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the amendment of 10-18-06*.

2. ☒ The allowed claim(s) is/are *1-10 and 63-72 renumbered 1-20, respectively*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a) ☐ All b) ☐ Some* c) ☐ None of the:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

   * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
   (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
   (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

   Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

Matthew O Savage
Primary Examiner
Art Unit: 1724

Claims 11-20 submitted in the amendment filed on 10-12-06 have been renumbered as claims 63-72, respectively, as per 37 CFR 1.126 (See the amendment filed on 7-5-06 canceling claims 11-62, the amendment filed on 10-4-06 adding new claims 11-15 which should have been numbered 63-67, and the amendment filed on 10-12-06 adding new claims 16-20 which should have been numbered 68-72).

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mr. A. John Pate on 12-20-06.

1. (previously presented) An apparatus for treating coal-bed-methane water, the apparatus comprising:

a pump delivering coal-bed-methane water from at least one coal-bed-methane well into a reservoir;

a generator producing aqueous sulfurous acid to treat the coal-bed-methane water containing in the reservoir; and

an injection system injecting soluble gypsum into the coal-bed-methane water to further treat the coal-bed-methane water.

2. (previously presented) The apparatus of claim 1, further comprising a control system to control a water flow rate through the generator to achieve a desired concentration of sulfurous acid.

3. (currently amended) The apparatus of claim 2, wherein the control system comprises a pH sensor to ascertain the pH of the treated coal-bed-methane water ~~being treated~~; a controller connected to the pH sensor to receive a signal representative of the pH, comparing the signal to a set point for a desired water pH, and providing an output control signal, to a control means to adjust the water flow rate to achieve a desired concentration of sulfurous acid.

4. (previously presented) The apparatus of claim 3, wherein the control means comprises a variable frequency drive (VFD) to adjust the water flow rate.

5. (previously presented) The apparatus of claim 3, wherein the control means comprises a variable frequency drive (VFD) to adjust the water flow rote through a valve, flow valve controlling the water flow rate through the generator.

6. (currently amended) The apparatus of claim 2, wherein the control system comprises a flow rate sensor to measure the water flow rate into the reservoir ~~through the generator~~; a controller connected to the flow rate sensor to receive a signal representative of the flow rate and to provide an output control signal to a flow control

means to adjust the water flow rate through the generator to achieve a desired concentration of sulfurous acid.

7. (previously presented) The apparatus of claim 2, wherein the control system comprises a feed load cell to determine the weight of sulfur fed to the generator.

8. (previously presented) The apparatus of claim 7, further comprising a timer circuit to calculate a burn bum rate based on a change of an output of the feed load cell overtime.

9. (previously presented) The apparatus of claim 2, wherein the control system comprises a flow meter to measure the water flow rate.

10. (previously presented) The apparatus of claim 2, wherein the control system comprises a timer to selectively start told stop the generator.

Claims 11-62. (canceled).

R·126

63 ~~11~~. (currently amended) An apparatus for treating coal-bed-methane water, the apparatus comprising:

a pump pumping coal-bed-methane water from at least one coal-bed-methane well into a reservoir;

a generator producing aqueous sulfurous acid to treat the coal-bed-methane water contained in the reservoir;

an injection system injecting soluble gypsum into the coal-bed-methane water to further treat the coal-bed-methane water; and

a control system comprising a control, a pH sensor to ascertain the pH of the treated coal-bed-methane water ~~being treated~~, and a controller receiving from the pH sensor a signal representative of the pH, comparing the signal to a set point for a desired water pH, and providing an output control signal to the control acting on the output control signal and adjusting ~~the~~ a water flow rate through the generator to achieve the desired water pH.

64 ~~12~~. (currently amended) The apparatus of claim 63 ~~11~~, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate.

65 ~~13~~. (currently amended) The apparatus of claim 63 ~~11~~, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate through a valve, the valve controlling the water flow rate through the generator.

66 ~~14~~. (currently amended) The apparatus of claim 63 ~~11~~, wherein the control system further comprises a feed load cell to determine the weight of sulfur fed to the generator.

67 ~~15~~. (currently amended) The apparatus of claim 66 ~~14~~, wherein the control system further comprises a timer circuit to calculate a feed burn rate based on a change of an output of the feed load cell over time.

68 ~~16~~. (currently amended) An apparatus for treating coal-bed-methane water, the apparatus comprising:

a pump pumping coal-bed-methane water from at least one coal-bed-methane well into a reservoir;

a generator producing aqueous sulfurous acid to treat the coal-bed-methane water contained in the reservoir; and

a control system comprising a control, a pH sensor to ascertain the pH of the treated coal-bed-methane water ~~being treated~~, and a controller receiving from the pH sensor a signal representative of the pH, comparing the signal to a set point for a desired water pH, and providing an output control signal to the control acting on the output control signal and adjusting ~~the~~ a water flow rate through the generator to achieve the desired water pH.

69 ~~17~~. (currently amended) The apparatus of claim 68 ~~16~~, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate.

12.126

70 ~~18~~. (currently amended) The apparatus of claim 69 ~~17~~, wherein the control comprises a variable frequency drive (VFD) to adjust the water flow rate through a valve, the valve controlling the water flow rate through the generator.

11

71 ~~19~~. (currently amended) The apparatus of claim 70 ~~18~~, wherein the control system further comprises a feed load cell to determine the weight of sulfur fed to the generator.

9

72 ~~20~~. (currently amended) The apparatus of claim 71 ~~19~~, wherein the control system further comprises a timer circuit to calculate a feed bum rate based on a change of an output of the feed load cell over time.

The following is an examiner's statement of reasons for allowance: U.S. Patent 6,689,326 to Jackson is considered the closest prior art, however, the reference fails to teach or suggest the limitation of the pump delivering coal-bed-methane water from at least one coal-bed-methane well as recited in claims 1, 63, and 68, or an injection system injecting soluble gypsum into the coal-bed-methane water as recited in claims 1 and 63, or the limitation of the control acting on the output control signal and adjusting a water flow rate through the generator to achieve the desired water pH as recited in claims 63 and 68.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O. Savage whose telephone number is (571) 272-1146. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

Matthew O. Savage

Matthew O Savage
Primary Examiner
Art Unit 1724

mos